

nursing, or other staff trained in health care, in the same law.

These reforms represent our way of modern thinking. We believe that Finland is the first country in Europe to include all health care professionals in the same law, in the same way as it was the first country to have a law defining patients' rights.

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1 Sheldon T. Dutch law defines patients' rights. *BMJ* 1994;308:616. (5 March.)

## Metal detectors to detect aluminium

EDITOR,—D M Bradburn and colleagues highlight the poor radiodensity of aluminium.<sup>1</sup> We now use a hand held portable metal detector (Adams Electronics, Edenbridge, Kent) to detect the presence of metal fragments in patients presenting to our accident and emergency department with a history of having ingested or inhaled metal fragments. This metal detector is sensitive to all metals, particularly closed rings such as the ring pulls on aluminium cans.

In the light of Bradburn and colleagues' case report we tested the ability of our metal detector to detect a metallic tab placed over the neck of one of us. A strong signal was emitted when scanning was performed from the opposite side. We note that the patient reported on had attended two accident and emergency departments and that radiographs obtained in both departments had not shown any abnormality. Had the patient been tested with a metal detector the presence of an aluminium fragment might have been detected earlier.

We propose that metal detectors should be used more widely in accident and emergency departments. They have provided information equivalent to that provided by plain radiographs in patients suspected of having ingested a foreign body<sup>2</sup> and in one case in which a razor blade was located in the oesophagus.<sup>3</sup>

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- 1 Bradburn DM, Carr HF, Renwick I. Radiographs and aluminium: a pitfall for the unwary. *BMJ* 1994;308:1226. (7 May.)
- 2 Arena L, Baker SR. Use of a metal detector to identify ingested metallic foreign bodies. *Am J Roentgenol* 1990;155:803-4.
- 3 Kessler A, Yellin A, Kessler A, Kronenberg J. Use of a metal detector in the location of a swallowed razor blade in the oesophagus. *J Laryngol Otol* 1990;104:435-6.

## Smoking in aeroplanes

EDITOR,—Unfortunately, Richard Harding's editorial on the many factors related to health and comfort in passenger aircraft<sup>1</sup> has been used by the tobacco industry to support its campaign, in the daily press in Hong Kong, against the non-smoking flights recently introduced by Cathay Pacific and other airlines.<sup>1</sup> The key paper quoted in the editorial, by Crawford and Holcomb, argues that environmental factors other than tobacco smoke may cause problems such as headaches and eye, nose, and throat symptoms.<sup>2</sup> This is hardly the only issue related to environmental tobacco smoke in aircraft, but it is perhaps not surprising that the article made such claims, and readers may wish to

consider the article's origins when assessing the evidence.

Both of the authors are well known as supporters of the tobacco industry in Australia and the United States. Larry Holcomb admits to being a consultant to the tobacco industry and has appeared regularly for it in the United States and other parts of the world. His advocacy for a relaxation of bans on smoking in aircraft has also been used by the industry in Denmark and Finland. In Hong Kong, in May 1992, he appeared as an "expert on environmental tobacco smoke" at a seminar held by the tobacco industry for the media, from which academic and other public health staff were excluded. Later, on a phone in programme on Radio Hong Kong, he attempted to refute the evidence for the effects of environmental tobacco smoke on the respiratory health of children.

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- 1 Harding R. Cabin air quality in aircraft. *BMJ* 1994;308:427-8. (12 February.)
- 2 Crawford WA, Holcomb LC. Environmental tobacco smoke (ETS) in airliners—a health hazard evaluation. *Aviat Space Environ Med* 1991;62:580-6.

## Falling sperm quality

EDITOR,—Stephen Farrow comments on the quality of the evidence concerning a possible decline in sperm quality,<sup>1</sup> focusing attention on our paper published in 1992.<sup>2</sup> Farrow also responds to a paper by Peter Bromwich and colleagues, for which we provided the commentary.<sup>3</sup>

Farrow questions our systematic search of the databases MEDLINE and Index Medicus. A necessary requirement for a valid overview, however, is that the criteria for including articles in the overview (and for excluding them) are explicit and reproducible to avoid selection bias. Several precautions were taken to avoid any undue influence of papers with small numbers of men in them. Firstly, the statistical analyses were weighted by the inverse of the sample size (not the logarithm of the sample size as Farrow claims). Secondly, we identified those studies that contributed most to the statistical association: most of these studies included large numbers of men. Replacing the date of publication by the date of data collection was feasible for only a limited number of publications, and the effect of relying on the publication date should not give rise to bias, only to a possible dilution of the effect.

We agree that the distribution of the data is obviously skewed and that use of the medians instead of the means would have been preferable. The information provided in the articles, however, did not allow for an analysis based only on the medians.

Farrow criticises our illustration of the decline in sperm concentration with a simple linear regression analysis. Indeed, the fit of this regression line is not very satisfactory, and before submitting the paper we performed several different analyses. The best fit among the more simple models was obtained by one sperm count before 1965, estimated as  $110 \times 10^6/\text{ml}$ , and highly significantly different from another sperm count, estimated as  $73 \times 10^6/\text{ml}$ , after 1965. This fit is compatible with the suggestion that the decline may have stopped. On the other hand, interestingly, a recent study by Auger *et al* showed a clearly significant decline in sperm concentration in 1351 fertile donors examined at the same clinic in Paris between 1973 and 1992.<sup>4</sup> Similarly, Von Waeleghem *et al* found a significant deterioration in sperm quality in 360 consecutive Belgian semen donors from 1977.<sup>5</sup>

In conclusion, on the basis of the admittedly

fragile instrument of meta-analysis the evidence cannot lead us to a conclusion other than that sperm concentrations now are lower than they were in the 1940s and '50s. This evidence needs to be combined with other types of evidence, but we do not believe that further statistical analysis will make any qualitative difference to the main message.

Our conclusion should perhaps be seen in the light of other aspects of semen quality in the general population: according to the World Health Organisation's classification, human semen is now considered to be normal even if up to 70% of the spermatozoa have abnormal morphology—a percentage much higher than in most other mammals.<sup>6</sup> Finally, there is no reason to doubt that the incidence of testicular cancer (a disease associated with low semen quality) is increasing considerably.<sup>7</sup>

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- 1 Farrow S. Falling sperm quality: fact or fiction? *BMJ* 1994;309:1-2. (2 July.)
- 2 Carlsen E, Giwercman A, Keiding N, Skakkebaek NE. Evidence for decreasing quality of semen during past 50 years. *BMJ* 1992;305:609-13.
- 3 Bromwich P, Cohen J, Stewart I, Walker A. Decline in sperm counts: an artefact of changed range of normal? *BMJ* 1994;309:19-22.
- 4 Auger J, Czyglik F, Kunstmann JM, Jouannet P. Significant decrease of semen characteristics of fertile men from the Paris area during the last 20 years. *Hum Reprod* 1994;9(suppl 4):72. (Abstract.)
- 5 Van Waeleghem K, De Clercq N, Vermeulen L, Schoonjans F, Comhaire F. Deterioration of sperm quality in young Belgian men during recent decades. *Hum Reprod* 1994;9(suppl 4):73. (Abstract.)
- 6 Skakkebaek NE, Giwercman A, de Kretser D. Pathogenesis and management of male infertility. *Lancet* 1994;343:1473-9.
- 7 Møller H. Clues to the aetiology of testicular germ cell tumours from descriptive epidemiology. *Eur Urol* 1993;23:8-16.

## Epidemic of asthma possibly related to thunderstorms

EDITOR,—At 1300 on 25 June the National Poisons Unit was notified by Whipps Cross accident and emergency department that 55 people complaining of asthma had attended during the preceding 15 hours. This was in contrast to an expected five to six cases and represented a 10-fold increase. Further investigation showed a similar excess of people attending with acute asthma in other accident and emergency departments across London: Newham 96; King George's, Ilford, 91; Royal London 62; Oldchurch 58; St Thomas's 44; Guy's 36; and Queen Mary's, Roehampton, 20. Several accident and emergency departments reported running out of medication, nebulisers, and mouthpieces of peak flow meters. Further ad hoc surveillance suggests that the incident spread from Bristol to Cambridge and Barnsley to Canterbury. This initial information suggests that this epidemic may be substantially larger than previously reported epidemics.<sup>1</sup>

The epidemic coincided with thunderstorms over much of Britain. In the past more circumscribed epidemic asthma has been reported after thunderstorms and is thought to be associated, at least in part, with aeroallergens such as pollen<sup>1</sup> and fungal spores.<sup>2</sup> Other epidemics of asthma have not